Reading Practices in Social Studies Classrooms: Teacher Support for Middle School Students with Autism Spectrum Disorder *

Lisa Burke, PhD
Department of Education, Elmhurst College.
190 Prospect Avenue, Elmhurst, IL 60126. USA.

Wu-Ying Hsieh, PhD
Department of Special Education
University of Illinois at Chicago
1040 W. Harrison Street (MC 147), Chicago, IL 60607. USA.

Norma Lopez-Reyna, PhD
Department of Special Education
University of Illinois at Chicago.
1640 West Roosevelt Rd (MC 947), Suite 651, Chicago, IL 60608. USA.

Abstract

The purpose of this study was to describe the perceptions of general education teachers related to their teaching practices and the inclusion of students with autism spectrum disorder (ASD). The teachers' viewpoints about their planning and teaching practices, assessment strategies, and incorporation of reading strategies were explored. Interviews were conducted with ten middle school teachers who taught social studies in inclusive classrooms with at least one student with ASD. The findings indicate that social studies teachers taught reading comprehension skills and strategies but did not necessarily implement different teaching practices for the students with ASD. Their responses revealed an absence of a distinct planning process for students with ASD. What the teachers described as collaboration with others appeared to be more a kin to cooperation among colleagues on behalf of the student with ASD. Future research and implications for teacher education are discussed.

Keywords: autism spectrum disorder, inclusive classrooms, middle school teacher, social studies, teacher perceptions

1. Introduction

The last ten years in United States K-12 public education have seen some dramatic changes in teacher accountability for literacy instruction. Recent education policy such as the implementation of the Common Core Standards focusing on college and career readiness for K-12 students as well as revisions to individual states professional teaching standards suggest that all teachers are teachers of reading. Given this, the act of learning to read and the ability to effectively use reading skills in all content areas has become more important than ever, particularly as children progress through the grade levels.

Federal legislation (e.g., Individuals with Disabilities Education Improvement Act [IDEIA], 2004; No Child Left Behind [NCLB], 2001) calls for general education teachers to revise aspects of their teaching so they account for all students in their classrooms regardless of ability, ethnicity, and other identifying diversity factors, including students with disabilities. The passage of the amendments to IDEIA (2004) requires that students with disabilities have instruction in the "core academic areas" and are accountable to the same performance goals and indicators as the general education population.

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The implications of such legislation (IDEIA, 2004; NCLB, 2001) and the findings of the National Reading Panel (2000) along with the adoption of the Common Core (Common Core State Standards Initiative, 2011) suggest that teachers of students with disabilities need to include in their instruction the development of literacy skills such as reading comprehension. This expectation dictates general education teachers to have the knowledge and skills to assist students with disabilities by providing effective instructional practices and accommodations (Maccini & Gagnon, 2006).

Teaching in content areas such as social studies, that includes providing knowledge and thinking skills development needed by productive, engaged citizens (National Council of Social Studies, n.d.), typically involves students reading textbooks, answering questions about what they are reading, and paraphrasing or summarizing content to show understanding. These practices are particularly evident in middle school and high school content-area classrooms, which are often text-based. Although middle school content area teachers are prepared in a variety of different programs and may have discipline-specific expertise, for the most part they lack knowledge of how to develop comprehension or use reading strategies in their content area instruction (Nichols, Young, & Rickelman, 2007).

The benefits of using reading comprehension instruction in content areas are evident throughout the research literature. The importance of different types of instruction, such as explicit instruction of reading strategies within the content curriculum, is an area that has been shown to improve the reading skills and understanding of the content for many types of learners (Mastropieri et al., 2006; Simpkins, Mastropieri, & Scruggs, 2009), yet little is known about how or whether content area teachers, especially at the middle school level, implement such instruction. As legislation (IDEIA, 2004; NCLB, 2000) calls for accountability for all learners' achievement and for the specific content of instruction, it is important for middle school teachers to use evidence-based practices for content area reading, particularly to develop reading comprehension.

1.1 Students with Autism Spectrum Disorder and Content Area Instruction

Among students with disabilities, the number of students with autism spectrum disorder (ASD) receiving special education services has increased over the past five years by almost 50%, rising from 192,643 to 370,011 (30th Annual Report to Congress on IDEA, 2008). This indicates that one in 88 students are being diagnosed with autism (The Center for Disease Control and Prevention, 2011). Students with ASD that are higher achieving or have Asperger Syndrome are often able to answer factual comprehension questions, but have more difficulty with learning that requires higher level thinking (Lanter & Watson, 2008). Some abilities necessary for comprehension, such as recall of nonfactual information, drawing conclusions, and making judgments, have been found to be difficult for students with ASD (Griswold, Barnhill, Smith-Myles, Hagiwara, & Simpson, 2002).

In addition to the development of reading comprehension skills and strategies, students with ASD may need additional support for responding to text. Carnahan, Williamson, and Christman (2011) suggested that cognitive processes such as Theory of Mind and executive function contribute to the reading comprehension difficulties of students with ASD. Theory of Mind requires the individual to understand the feelings and perceptions of another, realize those feelings are different from his/hers, and understand that feelings often influence actions (Firth & Firth, 2006). Executive function is the ability to self-monitor as well as plan and organize one's thoughts (Attwood, 2008). Because these cognitive processes are weak in students with ASD, understanding different perspectives, identifying the main idea, making inferences, and organizing information for a given purpose while reading, are often difficult for students with ASD (Carnahan et al., 2011). These are examples of higher-level reading skills that impact the comprehension of text by students with ASD in content area classes; especially in the context of a social studies classroom, where there is a high likelihood of including students with ASD. There are very few studies related to students with ASD in middle and secondary school content area classes and their ability to comprehend content area text. The existing research focuses on explicitly teaching students with ASD comprehension strategies to increase their understanding of what they are reading. The few studies completed have positive outcomes for increasing the reading comprehension abilities of students with ASD.

Munro-Flores and Ganz (2007) investigated the effects of a Direct Instruction Program (i.e., teaching learning strategies) on the reading comprehension skills of students with ASD using a single-subject design. Participants were four elementary students with ASD who had reading delays and were instructed in self-contained special education classrooms.

The researchers followed the detailed instructor scripts in the Direct Instruction Program with a focus on inference skills using facts from the stories and skills related to creating and understanding analogies. The students received instruction with teacher modeling and demonstration for twenty minutes a day for 5 days a week in a group format. The intervention lasted for 49 weeks. Results showed that all four students had a marked change in their reading comprehension between baseline phase and treatment phase and were able to maintain their performance of these skills one month after the intervention ended.

Similar positive outcomes were found in the study by O'Connor and Klein (2004).

Twenty-five individuals with ASD were chosen to participate based on the fact that they had moderate to high levels of decoding, but lower levels of reading comprehension. Five of twenty-five students participated in the pilot study and the other twenty students participated in the actual study. The students had a mean age of 15.11 and were taught in self-contained classrooms or general education classes with resource level support. The students were instructed in small group settings and the instruction involved pre-reading instruction related to background knowledge, pronouns and their referents that might appear in the story, and some cloze questions involving vocabulary in the story. The findings indicated that teaching students with ASD to use their background knowledge as well as employing a cueing system for identifying pronoun referents during reading increased their reading comprehension. Although the study did not address students' ability to independently apply strategies to comprehend text, it demonstrated that teachers can assist in the understanding of text by providing students with specific related instruction and strategies.

Whalon and Hanline (2008) examined the effect of the use of strategy instruction on reading comprehension of students with ASD in a single-subject study. The participants (n = 3) were elementary-aged boys diagnosed with mild autism and had higher nonverbal reasoning scores than verbal reasoning scores as measured on a standardized test. Nine general education peers were also part of the study, working as cooperative partners with the boys throughout the study. The students with ASD were taught the elements of a narrative story and were provided modeling and demonstration of the skills required to carry out an adapted reciprocal questioning strategy, such as using picture cues and generating and asking questions throughout the story. All the students were able to generate and answer questions during the intervention stage at a higher frequency than at the baseline stage. It is worth noting that any verbal prompting provided by the researcher was no different for the students with ASD than for the students without disabilities, suggesting that what works for students without disabilities when developing reading comprehension may work for students with ASD. Additionally, all the children were given a social validity measure once the intervention was complete and all the children, both children with autism and general education students, felt the intervention was beneficial and enjoyed the collaborative work.

The outcomes of the above studies provide valuable information related to the reading comprehension needs of students with ASD. The findings illuminate that students with ASD can learn and use research-based comprehension skills and strategies that are often taught in general education classrooms. In addition to the limited research related to the reading comprehension skills of students with ASD, there is a gap in the research regarding what middle school teachers know about teaching content-area reading skills as well as how they teach those skills for reading comprehension. Based on the current literacy and education movements, as well as the limited research in the areas identified, the present study focused on understanding the process of teaching reading and on how middle school teachers teach reading as part of their curriculum. Moreover, how social studies teachers, who often have students with disabilities included in their classrooms, teach to all students was the focus of this study.

1.2 Purpose of the Study

The purpose of this study was to describe the perceptions of general education middle school teachers related to their teaching practices and the inclusion of students with ASD in their social studies classrooms. More specifically, an exploration of the teachers' viewpoints about their planning and teaching practices, assessment strategies, and incorporation of reading strategies was conducted. The primary research question was: What are the perceptions of general education middle school teachers related to their teaching practices for students with ASD who are included in their social studies classrooms?

Three sub-research questions guiding in this research were:

- How do these teachers report that they incorporate reading comprehension in the context of teaching social studies?
- What specifically in relation to planning and teaching do these teachers report that they incorporate to attend to students with ASD?
- How do these teachers report that they assess all students' outcomes to determine comprehension of social studies content?

2. Method

2.1 Participants

The participating teachers, all Caucasian, with years of teaching experience ranging from three to 40 years, consisted of nine females and one male, and nine of the teachers had been teaching at their current school for at least five years. Three of the teachers were sixth grade teachers, four taught seventh grade, and three taught eighth grade. Eight of the 10 teachers held Masters Degrees with one of the teachers awaiting results of National Board Certification. The teachers had either a K-9 certificate (n = 4) or a 6-12 certificate (n = 6) and one of the teachers had special education certification as well. All teachers had experience teaching students with varying disabilities in their classrooms (e.g., ADHD, ASD, cognitive impairment, ED/BD, learning disabilities) and all teachers, at some point in their careers, had received specific training in the teaching of reading (e.g., professional development, graduate courses, preservice reading courses). The teachers' class sizes ranged from 20 – 30 students and most of the teachers taught at least three periods of social studies a day with three of the teachers also teaching a section of language arts. Table 1 lists detailed participant backgrounds.

Table 1: Participant Background

Participant	Years of teaching experience	Grade/ Content Areas	Number of classes taught/day	Average # of students per class	Current Year/ Number of students with ASD*	Degree/ Certificate	Approvals/ Endorsements
T1	10	8 SST	5 SST 1 advisory	25	1	MS +30 K-9	Social Studies
T2	40	7 SST	5 SST	24	1	MS 6-12	Middle School Gifted
T3	20	7 SST	5 SST 1 advisory	24	1	2 MS 6-12	Social Studies
T4	15	8 SST	3 SST	30	1	MS 6-12	Social Studies Middle School Language Arts
T5	6	6 SST/LA	1 SST 4 LA	30	1	BS K-9	Social Studies Middle School Language Arts
T6	24	7 SST	6 SST	20	1	MS +30 6-12	
T7	15	6 SST/LA	1 SST 4 LA	29	6	MS 6-12	Social Studies Middle School Language Arts
T8	10	6 SST	3 SST 1 TAP	27	2	MS K-9 LBS1 (K-12)	Social Studies Language Arts
T9	29	8 SST/LA	1 SST 4 LA	30	2	MS +60 K-9	Social Studies English
T10	3	7 SST	5 SST	26	1	BS 6-12	Social Studies Middle School

Note. BS: Bachelor of Science. LA: Language Arts. LBS1: Learning Behavior Specialist 1. MS: Master of Science. SST: Social Studies. TAP: Teacher Assistance Period. *All participants had students with ASD in past years, number not reflected.

2.2 Procedure

Participants were recruited from suburban middle schools, located in a county adjacent to a large Midwestern city.

Middle schools with a full inclusion philosophy were chosen to increase the likelihood that the general education content teachers would have recently taught a student with ASD in his/her classroom. The middle school websites were also reviewed to determine if reading instruction was being supported through professional development or if improving reading was a part of the school improvement plan. Thirty-one middle schools met the dual criteria and the 331 social studies teachers in those schools received the recruitment email. Purposeful sampling was used to select the participants that met specific criteria (Maxwell, 2005). The inclusion criteria were: 1) currently teaching sixth, seventh, or eighth grade social studies, 2) currently having at least one student with ASD in their classroom, and 3) having had at least one student with ASD during the previous three years. After repeated recruitment cycles, the efforts yielded eleven volunteers. A short screening interview, done through email or phone call, was conducted and ten of the eleven teachers met the selection criteria and became the participants.

The participants took part in two interviews conducted in their classrooms regarding their knowledge and perceptions of teaching students with ASD in their inclusive classrooms and how they incorporated reading comprehension strategies into teaching. The topics of the questions were sent to the participants a week before the scheduled interview to allow them time to reflect ahead and be prepared. Interviewees were also informed about the process of the interview such as audio-recording, note taking that might occur, the length of the interview, and were invited to bring to the interview a classroom artifact to illuminate their teaching practices.
The interview was recorded using a computer and an audio recording device. Immediately following the interview, field notes were taken to describe the setting, demeanor of the participant, and any documents or artifacts that the participants brought to share (Creswell, 2007). As a part of these field notes, the interviewer (first author) reflected on the main points learned, noting reactions of the participant and any other relevant information that could help develop a deeper understanding of the teachers' perceptions (Kvale, 2007).

The first interview, ranging from 60-70 minutes, was transcribed and transcriptions were sent back to each participant within two weeks via personal email. Each participant provided a member check by reading through the transcript to ensure that the recorded information was accurate. The participant was asked to note any modifications or additions they wanted to make and that any such changes would be discussed and entered during the second interview.

A second interview was conducted to further explore the three sub-research questions and further clarify information that was shared during the first interview. Each participant also shared at least one classroom artifact (e.g., student work sample, formative assessments, worksheets) and the interview included questions about the artifact(s). The span of three weeks between the first and second interviews allowed the participants time to reflect on topics discussed at the first interview and to note any changes they wanted to make. Hence, while no new questions were raised by the interviewer, the second session served to elaborate and further describe their perceptions. The second interview took between 30-60 minutes, and the same procedures of recording and transcript member checking (as in the first interview) were applied.

2.3 Data Analysis

The interview transcripts were analyzed using several steps: (a) initial reading, (b) developing codes, (c) assigning the codes to transcript data, (d) comparing and categorizing the codes into themes, and (e) creating visual representations of the identified themes for comparison, and categorization to address the research questions. First, the interviewer read through the interview transcriptions carefully, looking for conceptual categories of responses while writing down words or phrases that represented these categories in the margins (see Miles & Huberman, 1994). Field notes from the interviews were reviewed simultaneously with each transcript. An initial set of codes was identified based on words and phrases that related to the research and sub-research questions.
Teaching practice described tools (e.g., instructional activities, materials) the teacher used or did to teach a lesson or unit for all students.

Planning described the process teachers used to plan a lesson or unit.

Assessment described the methods (e.g., test, quiz, projects) the teacher used to evaluate both formatively and summatively of all students.

Reading comprehension described specific strategies the teacher would teach within the context of social studies to develop student understanding of the content material students would be reading.

Transcripts and fieldnotes were reviewed to identify words or phrases associated with the above codes as pasrt of the initial coding. Four additional codes emerged during this precoding: (a) *adaptations,* (b) *inclusion,* (c) *collaboration,* and (d) *role of paraeducator*. All coded words and phrases were highlighted and corresponding codes were noted in the margins.

NVivo software ("NVivo9," 2011) was used to find additional words and phrases that appeared throughout all transcripts. Based on the output of this analysis, three additional codes were added: (a) *student characteristics,* (b) *student response,* and (c) *teacher reflection.* In total, eleven code categories were used and entered into the NVivo to help with coding and developing of themes in the analysis process.

A constant comparison approach was used in the analysis process for coding the data. The unit of analysis consisted of an idea such as a reading skill or strategy taught and the data were coded to fit only one coding category. Codes were fine-tuned by comparing and grouping similarly coded transcripts or field notes with each other to identify and refine themes or ideas that were emerging (Miles & Huberman, 1994). All interviews were reread until saturation was met, meaning that no new insights, categories, or themes were revealed from the data for coding (Charmaz, 2006). Next, all the second interviews were read and coded using the same process as the first round of data analysis until saturation was met. The artifacts were connected to the themes for visual evidence and further support of the themes that emerged.

To establish reliability of the coding, the first author and the reliability coder (a colleague, experienced in qualitative methodology and familiar with the research questions) used the number of agreements divided by the sum of number of disagreements and number of agreements and multiplied by 100 to calculate inter-rater reliability (Miles & Huberman, 1994). Twenty percent of the interview transcripts from the first round of interviews were randomly selected for this purpose. An average inter-rater reliability of 84% resulted. The first author then proceeded to code the rest of the transcripts from the first round of interviews. The same reliability-checking procedure was followed for the second round of interviews. The inter-rater reliabilities averaged 83%. All disagreements during these reliability checks were discussed between the two coders and consensus was reached.

3. Results

This study focused on the teaching practices and reading comprehension strategies that the teachers used within the context of social studies instruction. The teachers discussed their teaching practices, how they assessed students' outcomes, and the reading comprehension strategies used in their content area. They also shared adaptations they made for the students with ASD. The results are presented based on the themes that emerged from the data analysis.

3.1 Incorporation of Reading Comprehension

Eight out of the ten teachers stated that a current school-wide initiative was occurring in their buildings to improve reading scores of students, including those in general education, English language learners, and students with disabilities. Six of the ten teachers commented they had previous professional development in reading in the content areas or some kind of reading strategy training; one teacher had earned a masters degree in reading. Examples of professional development stated by the teachers included courses on reading in the content areas, adolescent literature, and CRISS ("CReating Independence through Student-owned Strategies", Project CRISS, 2010) learning strategies with one of the teachers being a CRISS trainer.

The teachers talked about teaching reading comprehension skills, in response to the interviewer's definitions of "something that occurs automatically and results in comprehending" and "a plan used to improve one's comprehension" (Harris & Hodges, 1995). Nine of the ten teachers talked about teaching vocabulary development and main idea identification among the three most frequently taught skills. The reading comprehension strategies that nine of the ten teachers reported teaching were summarization, self-monitoring, and use of text structure. In all, across the 10 teachers, 14 different reading comprehension skills or strategies were identified as being taught within the context of social studies instruction. The extent to which the teachers actually use the 14 skills or strategies (or adequately do so) was left to speculation by the investigators given that none of the teachers described the explicit strategic instruction routines that are necessary when teaching strategies. Three strategies to support reading comprehension were consistently noted throughout the interviews.

Vocabulary development was a reading comprehension skill that most of the teachers stated they taught on a frequent basis. It was evident that the teachers felt that the students needed to have a good understanding of the terminology related to the social studies content they were teaching. When speaking about how they developed vocabulary, the teachers noted use of both direct instruction for teaching specific vocabulary as well as exploratory kinds of activities for expanding vocabulary use. Three of the ten teachers also shared that a common bank of words across their grade level was taught during the school year.

Main idea was a second recurring comprehension skill that most of the teachers talked about teaching. When teachers shared that they taught main idea, it was common for them to identify that understanding the "big picture" of the topic was critical to success in social studies. They all made reference to the importance of being able to pick out the most important idea related to the content or text materials as this would lead to understanding of ideas and events that were taught in social studies. They also commented that main idea was a targeted reading skill in either their school-wide or across their grade level and content area. Teachers also talked about teaching summarization and self-monitoring, not only to increase the understanding of the content but to also develop reading skills. The teachers shared a number of different activities such as use of highlighting, previewing the text, and creating questions while reading that they used to engage their students in learning the aforementioned strategies along with the content. Text structure was also pointed out to the students as a way of recognizing differences across reading genres.

3.2 Teacher Planning

Planning is an important part of a teacher's duties and the teachers were asked specifically to describe their planning process. Planning was defined for the teachers as the process teachers use when they are deciding what to teach, how to teach, and what materials they might use. Their responses revealed an absence of a distinct planning process and they did not seem to plan differently for students with ASD. Two of the teachers did not mention planning at all and the other eight teachers minimally talked about planning. The teachers' references to planning were from the perspective of the curriculum or content of instruction rather than from the perspective of the potential variation among the students. They mentioned planning a unit, or referred to planning as being time-consuming, or that they planned with the "big picture" in mind.

Each teacher was specifically asked about how they planned knowing that they had a student with ASD in their classroom with specific needs. Regardless of the specific questions about planning and that a definition of planning was provided none of the teachers' responses directly addressed this question. There was evidence, however, that they indeed thought ahead recognizing that the student with ASD might not be able to complete an activity without adaptations. For example, all ten teachers mentioned working with a special educator or with a paraeducator and sharing with them activities or work that would be completed in their classrooms. Tteachers did not desribe anything that resembled universal design for learning (UDL) (Spooner, Baker, Harris, Ahlgrim_Delzell, & Browder, 2007) or specific planning for the students with ASD with either the special educator or the paraeducator. They did, however, describe frequent instances of seeking advice and gathering ideas from these colleagues and reflecting about the student's work. Additionally, what the teachers described as "collaboration" with others could more accurately be characterized as cooperation among colleagues on behalf of the student with ASD.

3.3 Assessment of Students for Reading Comprehension

Assessing the academic achievement of students is necessary to meet the demands of content area standards and also important to identify if the teaching practices are meeting the range of needs represented in a classroom (Scruggs, Mastropieri, Berkeley, & Graetz, 2010). When asked how they assessed all students' outcomes to determine comprehension of social studies content, the teachers shared that they utilized both formative and summative assessment procedures with the students in their social studies classrooms. Assessment was defined for the teachers as the way they evaluate their students' outcomes for a lesson or unit. Examples of assessment were also shared with the teachers, e.g., tests, projects, quizzes or other daily activities like an exit slip. As the teachers talked about assessment, it was typically in the contexts of inclusion and adaptations. They shared that they evaluated their students in a number of different ways to meet the varying needs. They also shared adaptations that would be made, most often by the special education teacher or the paraeducator (if they worked with one) to the assessments they were using.

All of the teachers used quizzes and tests to evaluate their students' outcomes. Nine of the 10 teachers identified that they evaluated their students using formative assessment procedures most frequently. Some examples included exit or entrance slips, projects, discussion, and problem-based learning activities. Many of the teachers mentioned that such formative assessments took place on a daily basis. Eight of the 10 teachers also mentioned that they used homework as a way to assess their students' developing understandings and summative outcomes. An example of a project that was used as a formative assessment of reading comprehension skills consisted of a group poster project. Students worked in small groups and each of the students had a distinct responsibility or role that was necessary for completion of the project, including the student(s) with ASD. The project consisted of researching one of the constitutional amendments and creating a poster depicting that amendment. Students received ongoing support with the project during class time and a rubric was used to assess the final posters.

4. Discussion

It has been documented in the literature that content teachers are not accustomed to teaching reading skills within their content area and do not feel confident in doing so (Barry, 2002; Nichols et al., 2007). Traditionally subject-content teachers are prepared with a focus on the subject area, which contributes to the lack of reading skills being taught in content area classrooms (Barry, 2002; Nichols et al., 2007; Shanahan & Shanahan, 2008). Surprisingly, teachers in this study identified that they were teaching reading skills in their social studies classrooms. Each teacher shared at least three different skills or strategies they used or taught to develop reading comprehension. Barry (2002) indicates that when time was spent preparing content teachers to use and teach reading comprehension strategies, they would use them. The teachers in the present study reported previous coursework or having attended professional development on the topic of reading in the content areas and such preparation may have elevated their comfort levels to teach reading comprehension in their social studies classes, which concurred with Barry's finding (2002). Also, given that the teachers volunteered to participate in the study, they may have felt more confident about teaching reading comprehension skills or strategies.

With the implementation of the Common Core Standards and the expectation that students need to learn to read within content areas, teachers have had to use their expertise in the content area to help students develop the reading skills necessary for success (Common Core Standards Initiative, 2011). The teachers in this study may have been impacted by these current requirements and as a result have implemented teaching reading comprehension strategies in social studies. The teachers identified specific professional development their districts had provided to integrate reading into the content areas, e.g., CRISS (2010). The professional development that the teachers talked about may have helped them realize that using reading comprehension skills or strategies is necessary in their content area. Many of the teachers mentioned that increasing reading skills was a school-wide effort and their content area teams had identified specific reading strategies on which to focus.
Previous research also notes that content teachers report students' improvement in understanding of content when they teach a reading comprehension strategy (Barry, 2002; Pedrotty-Bryant, Linan-Thompson, Ugel, Hamff, & Hougen, 2001; Shanahan & Shanahan, 2008). Similarly, studies including students with and without disabilities have shown that reading strategies taught in the content areas increase achievement both in reading and in the content area (Kim et al., 2006; Scruggs et al., 2010). This line of research links teaching reading in the content areas with positive student outcomes, however, it is not clear if the teachers in this study have made that connection since none of the teachers mentioned if teaching reading comprehension strategies have improved their students' outcomes. This area needs to be further explored.

The teachers in this study shared a variety of comprehension strategies they taught in their social studies classrooms. These included: summarization, text structure, making predictions, use of background knowledge, and questioning strategies. These strategies have been shown to be effective for increasing comprehension in content areas and with expository text, in previous research on reading across the content areas (Kim et al., 2006; Mastropieri et al., 2006). The increased attention on *reading to learn* skills or reading across the content areas appears to impact the teachers in this study as they reported using research validated comprehension strategies.
The teachers' years of experience may also have impacted their use of research-based strategies. Given that most of the teachers in the study had more than five years of experience, extensive professional development in content area reading and advanced degrees, the teachers may have been more competent in the use of reading comprehension strategies that are research-based (Kohler, Henning, & Uma-Wilches, 2008). These factors, along with the current policy trends, may have influenced the teachers to make instructional decisions about teaching particular reading comprehension skills and strategies that may benefit their students.

Among the range of reading comprehension skills and strategies reported by teachers in this study, vocabulary development, a lower level reading skill, was frequently discussed. In fact, vocabulary development was consistently mentioned first when the teachers were asked about the reading comprehension strategies taught. Given the heavy vocabulary load in most content area classes, this finding is not surprising. The teachers appeared to be dedicating more time to teaching vocabulary and they acknowledged that the students with ASD had success learning the content area vocabulary. Kohler et al. (2008) concludes that teachers make decisions during and after instruction based on student learning and positive outcomes achieved by the students; students' success in learning the vocabulary may have been motivating for the teachers to continue this focus in the current study. The common use of vocabulary development reported by the teachers in the present study supports the existing literature in that the students' positive learning experiences with these strategies may have influenced the decisions of the teachers to frequently teach them.

The teachers in the present study also identified teaching main idea as a necessary skill for developing comprehension of social studies material. It has been consistently noted that students with ASD have stronger skills in the area of word recognition as compared to reading comprehension (Nation, Clarke, Wright, & Williams, 2006). Other studies have shown that students with ASD generally have strengths in their ability to recall factual details, but struggle when it comes to higher-level comprehension skills, e.g., inferring, responding to the text, understanding different perspectives, and understanding the "big picture" or main idea (Carnahan et al., 2011; Lanter & Watson, 2008). Whether it was knowledge of this area of weakness for students with ASD, or because it was a goal for all students, it was common for the teachers to highlight that they wanted their students, especially the students with ASD, to have an idea of what the content was "all about" or to understand the "big picture".

The teachers reported that they taught the reading comprehension strategies of summarization, prediction, text structure, and questioning. However, the teachers did not mention teaching the strategies using the features of strategic instruction such as explicit instruction and modeling, nor using guided and independent practice. It has been documented that strategic instruction taught in a routine and repetitive way can lead to positive outcomes in reading comprehension for students with learning disabilities (Kim et al., 2006; Mastropieri et al., 2006). Given the similar metacognitive weaknesses for students with ASD (Lanter & Watson, 2008; Nation et al., 2006), it seems critical for reading comprehension strategies to be taught with fidelity in content area courses such as social studies, to best meet the needs of students with disabilities.

Another finding in this study was the lack of discussion about the planning process, which is important for making individualized adaptations and to the implementation of specific reading comprehension strategies. Research shows that dedicating time during planning to discuss individual student needs leads to improved outcomes and learning for special education students (DeStefano., Shriner, & Lloyd, 2001; Mastropieri & Scruggs, 2001). The use of UDL is particularly promising as it provides for a range of abilities and experiences that the students may bring to the classroom. The teachers in this study used different methods to assess student performance in their social studies classrooms and frequently mentioned homework as a common formative assessment tool which is consistent with related research regarding homework and formative assessment (Marzano, Pickering, & Pollock, 2001).

Marzano et al. (2001) pointed out that homework is a good tool for student practice on a particular skill and provides teachers with important information regarding the individual student skill development. No specific reference, however, was made to homework and students with ASD.

The practice of making specific assessment adaptations for students with ASD was not apparent in the present study, in fact, teachers stated that they commonly reused adapted quizzes and/or tests that they had previously adapted for others with special needs. Such previously adapted quizzes and tests had been created using a variety of approaches such as fill-in-blanks (cloze) formats, use of word banks, or shortened quizzes and tests. The teachers did not, however, mention that these were adaptations specifically individualized for the students with ASD in their classrooms in the current school year. Research also emphasizes the importance of maintaining individuality when making decisions regarding assessment adaptations and when planning for successful inclusion experiences (DeStefano et al., 2001; Mastropieri & Scruggs, 2001); the teachers in this study made no reference to such individualization.

4.1 Limitations and Future Research

Several limitations of this study are worth noting. First, participants were homogeneous; that is, the small group of participants consisted of mostly females (n = 9) and all of the participants were Caucasian. Some of the participants worked in schools with student populations that represented diverse cultures (e.g., 70% Hispanic in one school, 13% African American in one school) but most participants worked in schools where students were mostly White and located in suburban middle-class neighborhoods. Additionally, most of the participants had advanced educational backgrounds and many years of experience, which may have also led to a limited perspective. Second, the interview of the teachers represented a measure of self-report. The teaching practices shared by the teachers could not be completely validated, as the authors did not observe these teachers during classroom sessions to determine whether teachers' interviews were congruent with their classroom practices. It is important to take into account that the teachers might have measured their words and shared what they thought the interviewer wanted to hear. A final consideration related to the findings, is that all the teachers who participated in this study volunteered and may have done so because they believed they were teaching reading comprehension skills and strategies that were beneficial to all the students in their classrooms including the students with ASD. The process of self-selection, therefore, may have been biasing in and of itself.

Findings from the perceptions and viewpoints of the middle school teachers point to several directions for future research. First, interviewing teachers representing different demographics and backgrounds will help to expand the limited research on content teachers who work with students with ASD. Recruiting teachers who work in urban areas, high-needs schools, or with little inclusion experience, as well as teachers who teach in elementary or high schools, or different content areas would add a different perspective and contribute to the needed research area. Given that collaborative planning between special educators and general educators leads to a more inclusive experience for students with disabilities (Lee et al., 2006; Soukop, Wehmeyer, Bashinski, & Bovaird, 2007), considering the viewpoints of special education teachers or the paraeducators who are working with the students with ASD in the same general education content area classrooms would also broaden the findings. Additionally, examining the teachers' background in reading might help explain whether preparation in reading influences content teachers' use of teaching reading comprehension strategies. Information such as the number of hours and contents/topics/formats of professional development or course work the teacher has had and specific questions related to knowledge gained as a result of professional development would add valuable interview data.

Second, future research should include observations of the teachers along with the interviews to corroborate actual classroom practices. The observations would provide more information about the practices participants used to develop reading with students with ASD. More complete insights into the actual teaching practices would certainly be informative for professional development as well as preservice educators.

Finally, and related to the above, through omission more than through their actual words, the teachers left the authors wondering about the depth of understanding that the ten general education, social studies teachers possessed regarding the learning needs of the students with ASD. Focused interview questions based on vignettes or case studies or videotaping of teachers while teaching followed by stimulated recall interviews would enhance our understanding of the learning needs of students with ASD.

4.2 Implications for Practice

According to previous research, the most beneficial approach to professional development would be to create opportunities that focus on developing reading comprehension specifically for students with ASD within the context of social studies curriculum (Chiang & Lin, 2007; Hart & Whalon, 2008; Whalon, Otaiba, & Delano, 2009). The teachers in the current study noted that their students with ASD had a common weakness in seeing the "big picture" of the topic being studied. Strategies to address this need, however, were not highlighted in their responses. To increase the reading comprehension skills for students with ASD, Carnahan et al. (2011) suggest that higher level skills such as purposeful reading, perspectives recognition, and inferential understanding need to be emphasized. Professional development that focuses on these higher-level strategies within the context of content area instruction would be valuable. In addition, providing general education teachers with knowledge of characteristics of students with ASD particularly in the reading area within the context of this professional development could provide specific understandings for how general educators can meet the needs of these students.

Finally, while it is important for teachers to consider specific learning needs of students with disabilities when planning for instruction, making adaptations, and deciding on assessment options (DeStefano et al., 2001; Hart & Whalon, 2008; Mastropieri & Scruggs, 2001), the teachers did not make reference to an individualized planning process for the students with ASD which would be beneficial to increase student outcomes and teacher effectiveness (Lee et al., 2006; Soukop et al., 2007). A collaborative planning period with the special educator, for the purpose of addressing individualized education program (IEP) goals and anticipated barriers within the curriculum or activity would be a basis for designing upcoming lessons. The use of Universal Design for Learning would serve all of the students, with and without IEPs. Providing professional development for general and special educators related to collaborative planning could help both groups think differently related to how they use their planning and instructional time.

Given the current stance that all teachers are teachers of reading, higher education institutions need to consider how content area teachers are prepared. Traditionally, preservice teaching preparation for content teachers has been focused on the subject area without reading comprehension practices. Although teachers in the present study used a variety of reading comprehension strategies, their focus on the use of lower-level skills underscores the need to include coursework that emphasizes the *reading to learn* skills for higher-level comprehension (e.g., reader-response, problem-solving, connections to personal experiences) (Carnahan et al., 2011) rather than the just lower-level *learning to read skills* such as vocabulary development. In addition, preservice teaching preparation for general education teachers needs to include the idea of Universal Design for Learning, collaborative planning with special education personnel, and research-based practices for students with disabilities and specifically, students with ASD, given the high prevalence ratios. Redesign of professional development and preservice teacher preparation in reading research ensures that middle school content teachers can continue to develop the necessary skills for all their learners and make specific adaptations for students with ASD.

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